

ENVIRONMENTAL SURVEY
OF OWENS/CORNING
FIBERGLAS PLANT
ST. HELENS, OREGON
FOR
ARMSTRONG WORLD INDUSTRIES

Prepared by
CH2M HILL

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INTRODUCTION

Armstrong World Industries, Inc. (Armstrong) contracted CH2M HILL to perform an environmental survey of Owens/Corning Fiberglas (OCF) building board plant in St. Helens, Oregon. The environmental survey was based on the following:

- o The review of copies of correspondence, permits, and compliance information from OCF files that were provided to Armstrong.
- o The review of the State of Oregon Department of Environmental Quality (DEQ), Northwest Region's files on the OCF St. Helens plant.
- o Telephone conversations with Larry Patterson and Glen Carter (DEQ--Water Quality Division) and Jim Broad, Chuck Clinton, and Dick Wixom (DEQ--Northwest Region office).
- o The review of copies of pages excerpted from a summary of the St. Helens plant prepared by Armstrong engineers.
- o Telephone conversations with David D. Wilson, Senior Attorney with Armstrong, and Paul R. Bowers, Manager, Environmental Affairs with Armstrong.
- o January 14, 1987, meeting with David Wilson and Paul Bowers.
- o Plantsite visit by Jack A. Payne of CH2M HILL on January 15, 1987, accompanied by David Wilson and Paul Bowers; David G. Schlaudecker, Director, Environmental Services for OCF; and Marlene Warren, Facility Manager, and Bob Lalande, Supervisor of Security and Maintenance for OCF St. Helens plant.
- o Plantsite visit by Jack Payne on January 22, 1987, accompanied by Bob Lalande of OCF and Robert Brown of JP Environmental.

This report has been prepared for Armstrong pursuant to an agreement on January 7, 1987, with CH2M HILL and is accurate to the best of CH2M HILL's knowledge and belief. This report is based in part on unverified information supplied to CH2M HILL; therefore, CH2M HILL does not guarantee its completeness or accuracy. CH2M HILL's project staff performing the environmental survey are not attorneys; therefore, this environmental survey is not a legal representation or interpretation of the environmental laws, rules,

regulations, or policies of the federal, state, or local governmental agencies. The following is a summary of CH2M HILL's observations and findings. The photographs referred to in this summary are located at the end of the report.

FACILITY DESCRIPTION

The OCF St. Helens plant is located at 1645 Railroad Avenue about 1 mile south of St. Helens, Oregon, and occupies approximately 175 acres, of which 74 acres is considered developable. The remainder of the site consists of submerged land, tide lands, and seasonally inundated lands. The property is zoned M-1 (heavy industrial). The property is bordered by Scappoose Bay (see photographs 1 and 2), Milton Creek, tidelands, Multnomah Plywood, and a combination of residential and light industrial land.

The St. Helens plant is a building board plant that was built in 1929-30 by the Fir-Tex Company. It was later sold to the Dant and Russell Company, which manufactured wood fiber ceiling board and building products. In 1956, Kaiser Gypsum purchased the plant and continued to manufacture wood fiber products, including ceiling tile, roof insulation, sheathing, and expansion joints. Kaiser also attempted to manufacture mineral fiber products. In 1978, OCF purchased the plant and continued to manufacture both wood fiber and mineral wool building products. In 1982, OCF shut the plant down and it has not operated since. From 1982 to the present, certain portions of the mineral wool and wood fiber process equipment and mobile equipment have either been sold or transferred to other OCF facilities.

AIR

OCF has an Air Contaminant Discharge permit from the DEQ that allows the plant an annual particulate emission rate of 21.66 tons/year. Because the plant is shutdown, there were no visible process or boiler emissions. The only odors detected at the plant site (excluding the odors from the nearby pulp and paper mill) were from the two large above ground fuel oil storage tanks and the area between the naptha tank and the Quonset hut. The storage tanks were in the process of being pumped out, the naptha tank contained what is believed to be naptha, and there was naptha-asphalt like material on the surface of the ground. These odors were confined to the immediate area and were faint (similar to an old creosote railroad tie on a warm summer day).

WATER

OCF had a National Pollution Discharge System (NPDES) wastewater discharge permit that was administered by the DEQ. The permit has expired and, because the plant had been shut down for several years, the DEQ elected not to renew the permit until the plant is ready to resume operation. The plant has a process wastewater treatment system consisting of primary and secondary clarifiers, aeration basin, and sludge drying bed (see photographs 3, 4, 5). The treated effluent was discharged to Scappoose Bay via outfall 001. The plant's domestic wastewater effluent from its onsite sanitary waste system was discharged into the clarifier following disinfection. Because the plant is shut down, its domestic wastewater is no longer being disinfected before being discharged to the clarifiers. As shown in photographs 3 and 4, there is water in the clarifiers and aeration basin and dried sludge in the sludge drying bed. There was no significant malodor from the treatment system and no visible signs of seepage from the aeration basin. There was water flowing from outfall 001 (photograph 10). The water looked relatively clear, with no visible signs of oil and no malodors.

The expired NPDES permit identifies three other outfalls (002, 003, 004) for noncontact process cooling water. The outfalls were covered with brush and not easily accessible. However, the areas these outfalls discharged to were inspected and showed no visible signs of oil discoloration or stains. Only one outfall had any noticeable flow, which was coming apparently from the boiler house (see photographs 8 and 9). Photograph 8 shows a puddle of water on the floor of the boiler room that was flowing into a drain. The drain appeared to be connected to an outfall via an inspection manhole (photograph 9). The source of the water inside the boiler house could not be confirmed but it is likely the result of precipitation through windows or breaching from the boilers to the stack (see photograph 8). The vegetation and the water below the outfall were not visibly discolored.

The plant's potable water is provided by the City of St. Helens. Nonpotable and fire protection waters are pumped from Scappoose Bay. There are no known onsite water supply or groundwater monitoring wells. The nearest registered well is located offsite, upgradient to the site, at 2185 Gable Road.

SOLID WASTE

The plant originally (1930-1970) disposed of cardboard, crates, reject fiberboard, sawdust, etc., onsite via open burning and/or land disposal. See photograph 17 for general location of the burn area. The open burning was discontinued in 1970. Since then, wood fiber, reject fiberboard,

sawdust, and miscellaneous plant debris have either been disposed of onsite or remain in open storage (see photographs 2, 10, 17, 18, 19, or 21). There were no visual signs of significant leachate or seepage from these areas. The plant is in a wetlands and any further encroachment into the wetlands, i.e. onsite disposal of additional materials, may require prior approval from the U.S. Army Corps of Engineers/State of Oregon Division of State Lands.

The plant had less than 50 drums of chemicals, lubricating oils, paints, etc., remaining onsite. The majority of the drums have been collected and placed in a central location within the siding building (see photograph 22) awaiting shipment to an offsite disposal facility. There were several empty drums on the property that either were used for marking the soft shoulders along the roads or discarded (see photographs 20 and 21).

TANKS

The plant has several raw material and fuel oil storage tanks. There are five underground concrete tanks containing Bunker B, Bunker C, and sludge oil. Three of the tanks are located adjacent to the boiler house (see photograph 6) and the remaining two tanks are adjacent to the maintenance and storage room. All five tanks contained fuel oil that has been in the tanks since the plant was shut down in 1982. The sludge oil is material from the fuel oil tanks. There is no record of these tanks being internally inspected or tested for leaks, other than being sticked a couple of times over the last 5 years, however there were no visible signs of tank failure (i.e., seepage into the surrounding wetlands). OCF did not report the underground storage tanks to DEQ/EPA because the tanks contained fuel. Fuel oil tanks were not required to be reported.

The aboveground tanks include two large fuel oil tanks (see photograph 7), a small diesel fuel tank (see photograph 6), several asphalt tanks, and caustic tanks located between the substation and debaler (see photograph 13), a naptha tank located behind the Quonset hut (see photograph 11), and an asphalt storage tank on the south side of the dryer building. The two large fuel oil tanks are within a secondary containment berm and are built on elevated concrete columns so that one can visibly inspect the ground immediately underneath the tanks. Other than some minor surface stains, there was no visible signs of spillage or leakage from these tanks. The diesel tank is situated within a concrete containment structure that showed no signs of any significant spillage.

At the base and immediate area around each of the asphalt storage tanks, there was spilled asphalt-like material (see photographs 12, 13, 14). Much of the spilled material was

cracked and broken chunks were lying on top of the surface. It appears that the spilled material only contaminated the surface-near-surface soils (few inches). A significant portion of the area between the Quonset hut and the naptha tank (see photograph 11) was covered with asphalt-naptha like material. The surface of this material was dry; however, below the surface the material was sticky. When standing in this area, one can smell asphalt/naptha-type odor, which are likely coming from the spilled material and approximately 2 feet of material remaining in the naptha tank. In addition, there is asphalt/naptha and asphalt/naptha/wood fiber material dumped along and over the embankment north-northeast of the Quonset hut across from the access road previously used by contractors.

At the time of the plant visit, OCF had an outside contractor pumping out the fuel oil from the two large aboveground fuel storage tanks. OCF advised Armstrong that the aboveground and underground fuel oil tanks were to be pumped out along with the caustic tank. The empty underground tanks were then to be filled with water to prevent the tanks from floating.

PCBs

Eight oil-type transformers were observed during the site visit (see photographs 26, 27, 28, 29, 30, 31). There were no visible signs (i.e., oil stains on the sides or base of the transformers) of external leaks. These transformers have been labeled as either "No PCBs," "PCB Contaminated," or "Contains PCB."

An OCF internal memo dated February 27, 1984, to D.M. Warren from A.T. Nestor and accompanying laboratory report from Columbia Laboratories dated February 20, 1980, states that the oil circuit breakers and 8 of 9 oil-filled transformers tested had either no detectable PCBs (detection limit was 20 ppm) or PCB concentrations of less than 50 ppm and as such they are classified as NonPCB. The main substation General Signal transformer had a PCB concentration greater than 50 ppm and as such is classified "PCB contaminated." The 1,000-kVA Westinghouse transformer (located on a platform in the finishing area) was not tested. It has pure askarel (PCB) fluid and as such is classified as a PCB transformer. The main substation General Signal transformer (see photograph 28), labeled "PCB Contaminated" does not have impervious containment (i.e., concrete floor). The one PCB-containing transformer located in the finishing area (see photograph 31) does not have secondary containment. Any spill could potentially enter a floor drain located below the transformer.

The same February 27, 1984, OCF internal memo also mentioned a PCB capacitor located in the pump house on the dock. No capacitor labeled as containing PCBs was noted on the dock during the site visit.

ASBESTOS

OCF believes that the Kaiser Gypsum Corporation used limited quantities of asbestos fibers as a raw material in the early 1960s. If this is the case, there is a possibility that some of the finished product may have been disposed of on-site via open burning. In December 1986, OCF collected surface-near-surface soil samples in several areas at the plantsite, including the sludge drying bed, former open burning areas, aeration basin, and reject fiberboard disposal areas. A total of 15 samples were collected and composited into 5 samples, then analyzed for the presence of asbestos. Dave Schlaudecker told us that the laboratories verbal report to OCF was that no asbestos was found. A copy of the laboratory report from Clayton Environmental Consultants shows that no asbestos fibers were found in sample No. 19673. The sample was a composite of Samples 1 through 6 collected in the area believed to be the former burn area. The remaining samples were saved but not analyzed.

A review of copies of printed material provided to CH2M HILL indicates that asbestos insulation had been removed at the OCF St. Helens plant and was disposed of offsite in a local landfill. Based on this information, and the age of the three boilers, burners for the dryer and insulated steam pipes, it is likely that asbestos insulation remains in service at the plant. Based on observations of the condition of some of the insulation (photographs 32, 33) by David Wilson and Paul Bowers, Armstrong directed CH2M HILL to contact an outside firm to conduct an asbestos survey. JP Environmental was contacted, and on January 22, Robert Brown of JP Environmental performed an asbestos survey at the St. Helens plant. Two copies of JP Environmental's report and findings were directly submitted to David Wilson on January 27, 1987.

SUMMARY

CH2M HILL performed an environmental survey of OCF's St. Helens, Oregon, operations the week of January 19, 1987. The OCF corporate and plant personnel were cooperative in answering our questions, volunteering information, giving us a tour of the plantsite, and providing us complete access throughout the plantsite. Asbestos insulation has been separately addressed in a report prepared by JP Environmental, which has been submitted to Armstrong separate from this report.

CH2M HILL found that the written correspondence and information provided by OCF and Armstrong on the plant's past environmental practices and history of compliance was consistent with that of the DEQ files, verbal communications with DEQ personnel, verbal communications with OCF corporate and plant personnel, and CH2M HILL's observations of the plant-site.

The plant was not operating at the time of CH2M HILL's site visit and had not operated since the plant was shut down. As such, it is CH2M HILL's opinion that the plant is in substantial compliance with current federal and state air quality, water quality, and hazardous waste management laws, rules, and regulations. The plant was not generating any process-related air emissions, liquid, solid, or hazardous waste. The interior of the plant's buildings and the outside areas of the property were exceptionally clean, considering the age and type of the plant. There was little debris, few empty containers, no boneyards of scrap metal, abandoned equipment, or building materials.

RECOMMENDATIONS

While it is CH2M HILL's opinion that there are currently no major environmental concerns at the St. Helens plant, we have several recommendations regarding current plantsite conditions and future activity. We believe they are cosmetic in nature, or relative minor items, but should be addressed.

- o The contents of the naptha tank located behind the metal Quonset hut should be removed and properly disposed of, or given or sold for beneficial use. There are no provisions for secondary containment and unless this material is to be used as a raw material or for a beneficial use, it will become a solid waste and Armstrong will have to pay for the cost of disposal.
- o The surface spills and disposal of asphalt/naptha-type materials at several locations on the plant-site should be removed. Under current solid and hazardous waste regulations, these spills would likely have been required to be reported to the DEQ. In the future, should Armstrong wish to make site improvements requiring cleanup of these areas and disposal of these materials, there likely could be additional disposal costs because of the nature of the spilled material. A preliminary estimate of the cost to clean up the major portions of the areas of the spilled material, including offsite disposal to an approved landfill, based upon the removal of 70 cubic yards of material is \$12,500.

- Improvements to the current domestic wastewater treatment system or alternative methods for treatment or disposal should be considered to prevent the potential for untreated domestic sewage from being directly discharged into the Scappoose Bay.
- It should be verified if a PCB capacitor at the pump house on the dock. If it is there, it should be properly labeled and be provided with secondary containment. If the capacitor is not there, Armstrong should request OCF to provide a copy of the paperwork and manifest to make sure the PCB capacitor was not disposed of onsite.
- Provisions for secondary containment should be provided for the transformer located at the substation labeled "PCB Contaminated" and the elevated transformer located in the finishing area that contains PCBs.
- The concrete underground fuel oil storage tanks should be tested and inspected for cracks, leaks, and structural integrity. If an underground tank is not being used in the future, consideration should be given to remove the tank.
- The findings, recommendations, and estimated costs for the implementation of recommended corrective measures contained in JP Environmental's Asbestos Report dated January 26, 1987, should be considered by Armstrong. Any questions or discussions regarding J.P. Environmental's report should be between JP Environmental, Armstrong, and OCF.

JANUARY 15, 1987, PHOTOGRAPHS
OF OWENS/CORNING FIBERGLAS PLANT
St. Helens, Oregon

<u>Photograph Number</u>	<u>Description</u>
1	OCF property, wetlands, and Scappoose Bay
2	OCF dock, wetlands, Scappoose Bay, Mult- nomah Channel, and Columbia River
3	Process wastewater treatment system-- clarifiers and aeration basin
4	Sludge drying bed
5	Sludge drying bed
6	Boiler house, three underground fuel oil storage tanks
7	Fuel oil storage tanks and containment system
8	Puddle of water on the concrete floor inside the boiler house
9	Access to water being discharged from the boiler house
10	Wood chips, site runoff
11	Naptha tank and spillage of Naptha- asphalt on the ground adjacent to the metal Quonset hut
12	Asphaltic material spillage inside con- tained area
13, 14	Asphaltic material spillage on the ground between the electrical substation and mineral wood debaler building
15	Old siding plant, shipping dock, former location of aboveground asphalt storage tank
16	Former area where local fire department held field training exercises
17	Former wood waste burn area

<u>Photograph Number</u>	<u>Description</u>
18, 19	Buried debris, ceiling tile
20	Empty drum in wetlands
21	Sawdust, empty barrels
22, 23	Leftover drums of material awaiting shipment for offsite disposal
24	Trash boxes of plant debris
25	Spillage of asphalt on top floor of dryer building
26, 27	Transformers located on the dock
28	Substation transformer
29, 30	Transformers across from mineral wool debaler building
31	Transformer inside finishing room
32, 33	Outside pipe insulation